

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listing, of claims in the application.

Listing of the Claims:

1. (Currently amended) A fibre optic accelerometer comprising a seismic mass coaxially constrained within a cylinder of compliant material, arranged to prevent the cylinder deforming inwardly under axial compression, the cylinder being circumferentially wound with optical fibre such that axial compression of the cylinder by the seismic mass increases stress in the optical fibre.
2. (Cancelled)
3. (Currently amended) An accelerometer according to Claim 1, wherein the seismic mass is ~~surmounted with~~ includes a disc shaped portion.
4. (Previously presented) An accelerometer according to Claim 1, wherein the seismic mass is secured by a tension member to a base plate.
5. (Original) An accelerometer according to Claim 4, wherein a spacer is provided between the cylinder and the base plate.
6. (Original) An accelerometer according to Claim 5, wherein the spacer is integral with the base plate.
7. (Previously presented) An accelerometer according to Claim 1, wherein the optical fibre is wound in a single layer.

8. (Previously presented) An accelerometer according to Claim 1, wherein the base plate is integral with a platform or structure.
9. (Previously presented) An accelerometer according to Claim 1 in which the seismic mass is coaxially constrained within first and second cylinders of compliant material, each cylinder being circumferentially wound with optical fibre.
10. (Currently amended) An accelerometer according to claim 9 in which the seismic mass comprises a first circumferentially located bearer member arranged ~~in-operation~~ to bear on an end of at least one of the compliant cylinders.
11. (Currently amended) An accelerometer according to claim 10 in which the first circumferentially located bearer member is arranged ~~in-operation~~ to bear on respective ends of both of the compliant cylinders.
12. (Currently amended) An accelerometer according to claim 10 comprising a second circumferentially located bearer member arranged ~~in-operation~~ to bear on an end of a second of the compliant cylinders.
13. (Cancelled)
14. (Previously presented) An optical interferometer comprising an accelerometer according to claim 1.
15. (Currently amended) A method of measuring acceleration comprising providing a seismic mass coaxially constrained within a cylinder of compliant material, the cylinder being circumferentially wound with optical fibre, ~~axial displacement~~ axially displacing of the

seismic mass so as to deforming compress the cylinder ~~so as to vary~~ thereby increasing the stress induced in the optical fibre, and determining a stress value in the optic fibre.

16. (Cancelled).
17. (Previously presented) A method according to Claim 15, in which compression of the cylinder by the seismic mass increases stress in the optical fibre.
- 18-19. (Cancelled).
20. (Previously presented) A fibre optic accelerometer according to Claim 1, wherein said compliant material is rubber or rubber like.
21. (Previously presented) A fibre optic accelerometer comprising a body of compliant material having an internal cavity extending in an axial direction;
optical fibre wound circumferentially around said body; and
a seismic mass located within said cavity; wherein the internal surface of said cavity is constrained against radial displacement.
22. (Previously presented) A fibre optic accelerometer according to Claim 20, wherein the internal surface of the cavity is constrained by the seismic mass.